Christopher Petrucelli

<u>D&DWiz</u>

<u>Abstract:</u>

This project was created to fill a void in the availability of free software to manage and play Dungeons and Dragons using a computer. Rather than using lots of paper, as people used to do, it's becoming more popular today (and certainly more convenient) to use technology to run a D&D campaign. Running a game of D&D is extremely time consuming and complex, so I began this project knowing that there are a huge number of individual things I could do that might be relevant to a game, but realistically it would take far too much time to program all of them or make a program that could fully run a game. Rather, I have worked at some of the most common actions and information you might need while playing a D&D campaign. These functions include a character's health, primary attributes and modifiers, skills and their associated values, and spots for equipped and carried items. Conveniently packaged and put into a text file, you can change the values as you play, and save the character for next time.

<u>Introduction:</u>

Playing a Dungeons & Dragons campaign using paper is a very nuanced, difficult, and time-consuming task. Setting up a character, the first thing that a player would have to do, could take a new player hours. It makes sense, then, that using a computer program to help walk you through the character creation process and manage the game would be very helpful. Many of these programs, though, are subscription based and have a high initial cost for the digital copies of the books. Even once the character is made, making changes to the character as you play

requires you to either erase and rewrite, or print off the character's sheet again. These types of problems are things that I sought to address while working on this project. Using D&DWiz will allow you to store a variety of different statistics related to your character, helping to keep track of the numerous aspects of a Dungeons & Dragons character. As I continue, I will go into the details of the current system, requirements for that system, explain the processes involved with making and managing characters in the physical books as well as current online tools, and provide a brief description of how to use the program.

Detailed System Description:

The current system has a few things that it can do. These functions are not all encompassing, as any single character in D&D can have hundreds of variables upon its' creation. Rather, D&DWiz will help the user to keep track of most of the important stats, attributes, and pieces of information you need, as well as help navigate a new player's character creation. When the program is run, it prompts the user for a command and tells them to enter 'help' for help. The program then enters a loop that will continue to take commands from the user until the user inputs 'quit' when the program asks for a command. The most involved functions of the system right now involve characters and their abilities and stats. The enterpc, seepc, and printpc commands all have various functions, and all involve the PC (Player Character) class.

PC
+name: String
+level: int
+hp: int
+str: int
+dex: int
+con: int
+intel: int
+wis: int
+cha: int
+prof1: int
+prof2: int
+prof3: int
+PC()
+PC(name: String, hp: int, str: int, dex: int, con: int, intel: int, wis: int, cha: int)

This class is used just to store the information for the entered characters, which is put specifically in a size four list of PC class objects (as the standard party/player size for a D&D campaign is four). The command enterpc is the most important command in the program, as seepc and printpc both rely on the user having already entered at least one character. When entered, enterpc prompts the user for a variety of different information. It asks for: character name, level, maximum health points, the primary attributes (Strength, Dexterity, Constitution, Intelligence, Wisdom, and Charisma), and the number of the character's three skill proficiencies (from an alphabetical list of the skills). This information is then all stored in an instance of the PC class within the party array. Seepc will print the information of the desired character to the console, allowing you to take a final look at all your inputs and verifying that they are correct. The second most important command printpc will print the information of the desired character to a text file, along with the modifiers for all the attributes. This allows for a user to have a very basic character sheet that they can type into to modify, changing their hp, stats, modifiers, and inventory as the game progresses. The roll and getmod commands were added simply for convenience to the user. The roll command prompts the user for only the size of the dice to be rolled, and then returns an integer between one and the size of the dice. This would allow you to

roll dice on the program rather than rolling a physical dice (which most aspects of the gameplay are based around). The getmod command simply uses the already calculated array of modifiers to quickly return a modifier to the user based on any attribute number, 1 to 30.

Requirements:

This project is meant to address the lack of free D&D character managing and playing software. While there are plenty of paid resources online, many subscription-based, there are very few (and difficult to find) programs to manage and create characters for free. This project allows you to enter characters and manage them using text files on your computer. This would allow you to print your characters to text files and move them to some easier to access location on your computer, rename them, and then type in them to modify the stats, conditions, or other variables about the character, including health, attributes, and skills to name a few. Of course, because the character is stored in a text file, additional information that isn't covered in the program can be added by the user based on what they want to include or not include.

Literature Survey:

Another program that was made to address the difficulties of running a D&D campaign is D&D Beyond. This is a tool made by the creators of the D&D game, so it is the most up to date and complete tool available on the internet. This tool allows you to create and manage characters in complete detail, access digital copies of the books, search databases of items, spells, and monsters, and watch extra content to give ideas to players and dungeon masters. This program is by far the most complete and organized tool for not only managing characters, but for entirely

running a game of D&D. With all the thousands of items, monsters, character feats, classes, stats, and more all already stored in databases that you can easily search or filter, competing with D&D Beyond would certainly be a challenge. The only problem with D&D Beyond is the paywall that the content sits behind. With subscriptions costing around $5.00, the program comes with a bit of a price. This isn't the only, nor the biggest, problem. To unlock all the content for use on the digital tool, as well as digital copies of all the books, you would have to spend a little more than $350.00.

User Manual:

To use this system, the user should enter in commands when the program prompts them. The help command gives a full list of all the possible commands and entering those commands will begin various processes that are explained further in the Detailed System Description. The user should only be entering integers when asked for numbers for hp or any other attributes/stats, as it is impossible in the game to have any stats or numbers be anything other than integers.

Conclusion:

In conclusion, the program that I created is meant to be a tool to make playing and managing a campaign in D&D both easier and free. By allowing you to enter and save characters by printing them to a text file, you can easily format multiple characters, and keep them in easily marked files at whatever easy to access place on your computer you move them to. This allows you to modify characters without having to erase or reprint papers when you need to make a change.

References:

https://www.dndbeyond.com/ - Character creation service and digital copies of the D&D Fifth

Edition Player's Handbook, Dungeon Master's Guide, and Monster Manual

http://dnd.wizards.com/ - Character sheets and information